

ABSTRACT OF THE DISCLOSURE

[1055] An apparatus for detecting at least one tone having a known frequency and duration in an input signal. The input signal is input over a period of time which is divided into frame portions including at least an initial frame portion and a last frame portion. An energy signal indicative of the energy of the input signal during each frame portion is generated. A signal filter receives the energy signal and generates a noise indicator for each frame portion based on whether noise is detected in the energy signal. A dynamic threshold determiner generates an energy threshold for each frame portion. The energy threshold for the initial frame portion is generated based on a minimum expected value of the energy signal for a subsequent frame portion. The energy thresholds for frame portions subsequent to the initial frame portion are generated based on values of the energy signals during previous frame portions and the noise indicator. A signal processor determines when the input signal includes the at least one tone based on the energy threshold, the noise indicator, and the energy signal.